

the disease it may be taken into the human system in various ways—in the food we take, the air we breathe, in the dust of the room, of the street, by flies, dirty fingers, filthy garments, and in a dozen other ways in which excreta and dirt may be spread. He considers that eight-tenths of all civilised people have had tuberculosis and have recovered from it without knowing anything at all about it.

In spite of all this, after describing in very popular language tuberculosis of various types, he states his belief that if we could put a stop to the dissemination of the tubercle bacillus we could put an end not only to pulmonary consumption, but could diminish our cripples by two-thirds, cases of scrofula by three-fourths, the fatal convulsions of childhood by a half, and eliminate a very large proportion of the fatal bowel diseases that occur in childhood. His optimism again comes forward when he considers Osler's statement that "we to-day run rather less than half the risk of dying of consumption than our grandfathers did and barely three-fourths of the risk that our parents did."

Dr. Hutchinson now and again drifts into what may be called Dooleyisms, which have a distinctly original flavour about them, and certainly tend to amuse, and, at the same time, to give us "furiously to think." As in the following:—

"If the rich had more sense and the poor more money, and both more public spirit, consumption would soon be a thing of the past. And it would be only one of many evils which would disappear in the process."

Again, when speaking of fresh air, he says:—

"Like other necessities of existence, it goes with the land, somebody else is going to get too little air, not to mention food and other incidentals. This isn't socialism—it's sanitary science. . . . It costs money to have plenty of fresh air to eat, even though the air is free . . . the one thing which no intelligent, civilised community can afford under any circumstances, is to allow any section, or class of it, to grow up without sufficient food to eat, air to breathe, and fuel to burn. . . . Wipe out the conditions which create consumption, and you will at the same stroke abolish half our crime and two-thirds of our pauperism!"

Dr. Hutchinson, after giving his message of hope describing the bacillus as the enemy, the weapons of the war to be waged against him, gives chapters on "Fresh air and how to get it," "Sunlight: the real golden touch," "Food, the greatest foe of consumption," "Work and rest: intelligent idleness," "The camp and the country," "Cash and consumption," "Climate and health," and "Specifications for the open-air treatment at home."

Speaking of the open-air treatment of consumption and camp-life, he says:—

"The cure of consumption is not a drug, or an operation, or a magic method of any sort. It is a life that must be lived twenty-three hours and sixty minutes out of the twenty-four, and seventy years out of your threescore and ten. You cannot learn it properly by being told about it, or lectured about it, or advised about it ever so wisely—you must live it."

Referring to the economic aspect of the question, under the heading "Cash and Con-

NO. 2171, VOL. 86]

sumption," the author believes that the community should provide the means for the worker to recover from his tuberculosis, and he contends that it can very well afford to do so, as thereby it escapes supporting his widow and educating his orphan children. It is on this basis that he speaks of poverty as the most expensive thing in the world for any community when quoting the tables of Korosi, which show that of each 10,000 well-to-do persons only forty die annually of consumption; of the same number of moderately well-to-do, 62·7; of poor, 77; and of paupers, 97. He maintains that there is a sound biological basis for our desire to be rich, for he points out that by becoming so "we reduce our chances of dying from tuberculosis fifty per cent."

There is good, sound, common-sense in the chapter on climate and health, which contains the following statement:—

"If anyone goes South to avoid the trouble of ventilating his bedroom properly, or taking sufficiently vigorous exercise in the open air to get up a glow and defy the frost, he is doing himself harm rather than good."

Wherever you go, the author says, go to a place where you can be comfortable, where you can get plenty of good and cheap food, where you can live in the open air without discomfort, where you will not be overworked, and where you can carry out to the full all the lessons learnt in the sanatorium. We have enjoyed reading Dr. Woods Hutchinson's book, and we can recommend it to all who like commonsense and can appreciate the writing of a man who knows his own mind concerning the subject with which he is dealing.

PROGRESS IN GIRLS' EDUCATION.

Public Schools for Girls: a Series of Papers on their History, Aims, and Schemes of Study, by Members of the Association of Headmistresses. Edited by Sara A. Burstall and M. A. Douglas. Pp. xv+302. (London: Longmans, Green, and Co., 1911.) Price 4s. 6d.

THIS is a book calculated to rejoice the heart of an educational worker, not so much for the wisdom it contains as for the evidence it affords of the spirit animating the educational policy of our leading English schools for girls. Here we have twenty-four essays relating to the subjects of girls' education, written by experienced headmistresses, who one and all seem to have a real zeal for their work, and a humble-minded desire to find the best way of doing it. There is a sense of sincerity, earnestness, and warmth in the essays that is highly pleasing, and a willingness to look at new proposals and plans that contrasts most favourably with the self-confidence, and subacid raillery sometimes affected by the high-placed pedagogue.

The essays are the outcome of a suggestion made by Mrs. Woodhouse, when president of the Association of Head Mistresses for 1907-9, and they are edited by her successor, Miss Burstall, and Miss Douglas, chairman of the curricula subcommittee.

They comprise a chapter dealing with the history of the development of public secondary schools for girls, a series of papers describing the present manner of dealing with the various school subjects, a paper on examinations, and papers on the general aims and ideals in education and suggestions as to possible reforms. The subject of discipline is deliberately omitted.

It will be understood from the foregoing that the amount of material presented affords abundant opportunities for comment and criticism, but the present notice must be restricted to one or two topics.

In the first place, it is noteworthy that in this presentation of views we find distinct evidence of an increasing differentiation between the education of girls and the education of boys. This, in a sense, is nothing new. Long ago there was a differentiation, inasmuch as whilst boys were being substantially taught, girls were being scarcely taught at all. But the first onset of the girls' high-school movement tended to an equalisation, both in quality and quantity, and doubtless there are still a good many people who do not admit that there is good reason for much difference.

The question involved is really one of great importance, both as regards girls and boys. Is a secondary school to be regarded chiefly as preparatory to a university or as a place where formal education is for most people ended? If the destiny of the pupils is assumed to be the university, where, up to now, the professional studies of men and women have been undifferentiated, there does not seem to be much reason for difference between girls' schools and boys' schools, and in both cases the teaching will be on purely academic lines. But surely if we think of the vast majority of pupils, we must realise that this assumption is wholly unwarranted, and we are thrown back on the inquiry—should not our main object in girls' schools be to frame a curriculum which at the end will equip girls, in the fullest degree possible within a school, for the unprofessional life that follows?

If this question is answered in the affirmative, it can scarcely be denied that there is room for distinctive features in the curricula of girls' schools. Whatever happens in connection with what is called the feminist movement, it can scarcely be doubted that for a long time to come the vast majority of women will be concerned with the administration of the home, and it would seem natural that this should be in the minds of those who have to consider the curricula. That this is now much more the case than it was twenty years ago is one of the most gratifying inferences to be drawn from the volume before us, and it is to be hoped that, notwithstanding the deep-seated belief which we profess in what are called disciplinary and humanising studies, our headmistresses may have the courage to specialise studies and equip their girls for women's work so far as it can be properly done in school.

The teaching of science to girls is at present receiving a good deal of attention. The subject is dealt with in the present volume by the able and experienced hand of Mrs. Bryant, and incidentally in home

science by Miss Faithfull, and in home arts by Miss Gilliland.

"The prime condition to be fulfilled in a school scheme of natural science study is," according to Mrs. Bryant, "that it shall lend itself with certainty and ease to develop in the immature but plastic mind of average ability this *scientific attitude* of alert *individual inquiry*." For this "the subject-matter should be at each stage as attractive as possible, in the sense of stimulus to inquiry. . . . the problems raised by the subject under discussion should not be too difficult for the learner's own powers of intellectual inquiry. . . . So far as possible the natural practical interests of the learners should be enlisted as a powerful additional stimulus to scientific motive."

No one will be likely to find fault with this clear and reasonable doctrine.

I may perhaps be permitted here to fall into the first person and to state that for a long time past I have been endeavouring to assist in making school science for girls comply a little more fully than has been the case with Mrs. Bryant's third requirement, viz., that it shall appeal to the natural practical interest of the learners. In doing this I have been brought into conflict with those who are alarmed for the "purity" of science teaching, and I have been suspected of a desire to introduce a sort of soft and effeminate subject which lacks all the elements of logic and discipline, so dear to the stern educationist. As a matter of fact, my aim has been nothing more or less than to imbue the science teaching in girls' schools with as much illustration from everyday topics, and especially topics of the household, as will give it a living interest and make it a more human, more useful, and more abiding possession. I state it, not as an opinion, but as a fact of experience, that the average science graduate, male or female, coming from an ordinary university course, is extraordinarily ignorant of some of the very simplest applications of science in relation to daily life, and that there is a considerable region of facts, both in physics and chemistry, lying outside the conventional "subject" as understood by degree artists in universities, which it behoves every reasonable school science-teacher to explore. I am not fond of the term domestic science, which rather curiously has been often used as synonymous with the arts of the cook and launderer, but that the principles and discipline of elementary physical science can be inculcated with a large accompaniment of topics and examples relating to the household arts I am perfectly satisfied, and I shall not readily be deterred from advocating this at some sacrifice of Atwood's machine and the oxides of nitrogen.

The question of the teaching of practical household arts in relation to girls' schools is admirably dealt with by Miss Gilliland, but a discussion of this subject and many others must be forgone for lack of space. The essay on examinations by Miss Gadesden deserves a special word of praise. We can, in conclusion, warmly congratulate Miss Burstall and Miss Douglas upon having brought to publication a collection of essays which does great honour to those who are directing the momentous work of educating our future rulers.

A. SMITHILLS.